FIG. 1

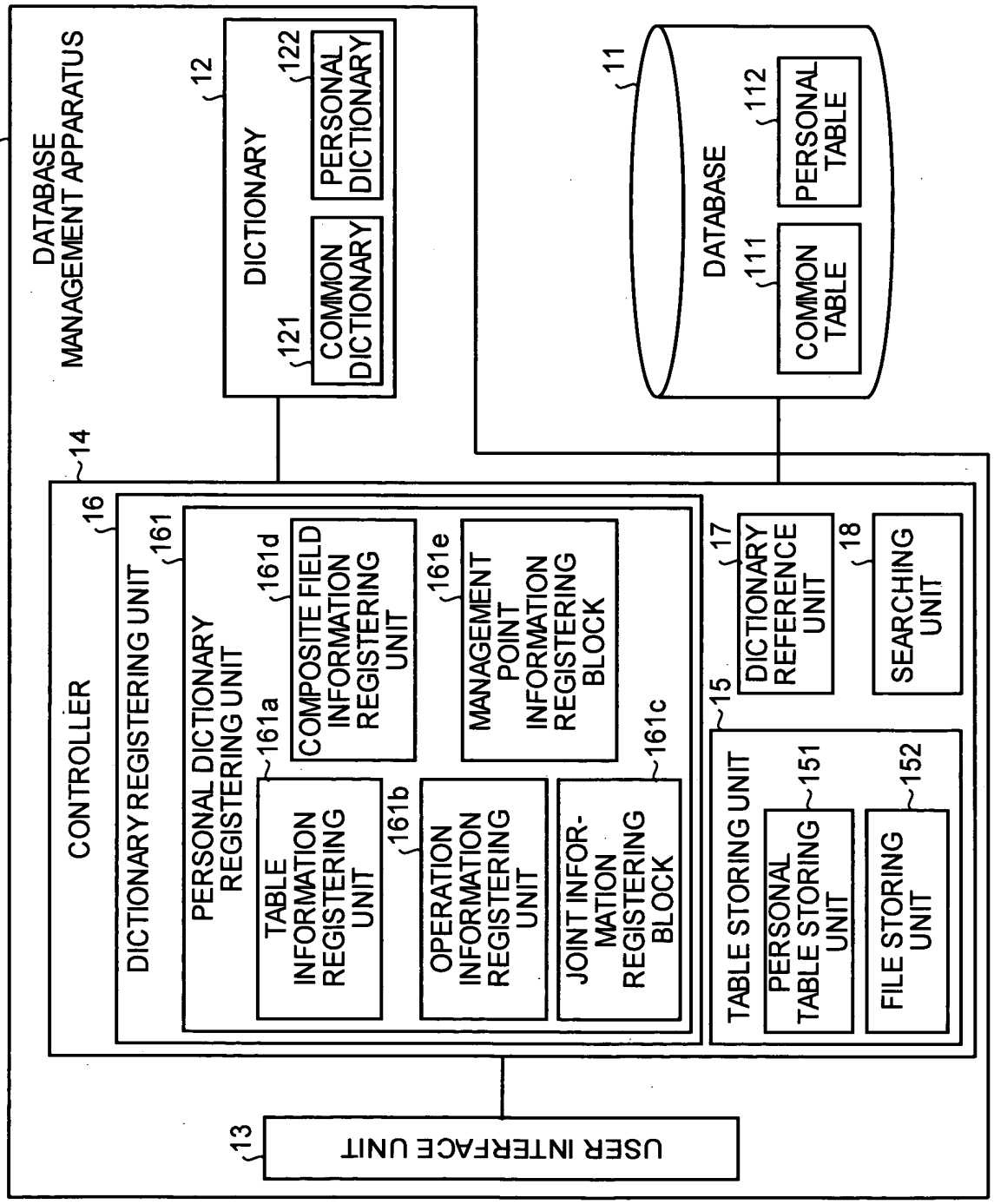
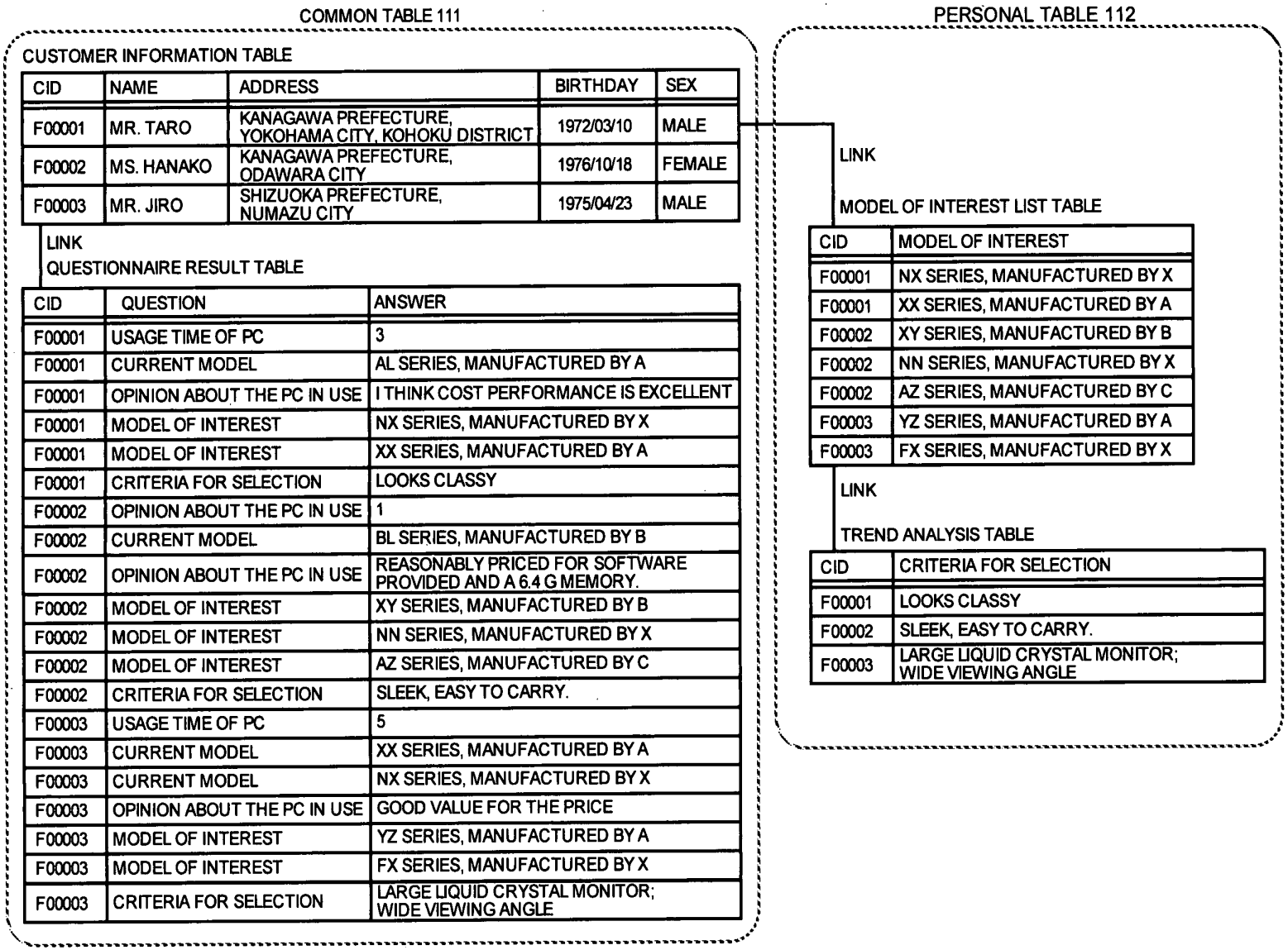

10
DATABASE MANAGEMENT APPARATUS
12
DICTIONARY
121
COMMON DICTIONARY
122
PERSONAL DICTIONARY
11
DATABASE
111
COMMON TABLE
112
PERSONAL TABLE
14
CONTROLLER
16
DICTIONARY REGISTERING UNIT
161
PERSONAL DICTIONARY REGISTERING UNIT
161a
TABLE INFORMATION REGISTERING UNIT
161b
OPERATION INFORMATION REGISTERING UNIT
161c
JOINT INFORMATION REGISTERING BLOCK
161d
COMPOSITE FIELD INFORMATION REGISTERING UNIT
161e
MANAGEMENT POINT INFORMATION REGISTERING BLOCK
15
TABLE STORING UNIT
151
PERSONAL TABLE STORING UNIT
152
FILE STORING UNIT
17
DICTIONARY REFERENCE UNIT
18
SEARCHING UNIT
13
USER INTERFACE UNIT

FIG.2



COMMON TABLE 111

CUSTOMER INFORMATION TABLE

CID	NAME	ADDRESS	BIRTHDAY	SEX
F00001	MR. TARO	KANAGAWA PREFECTURE, YOKOHAMA CITY, KOHOKU DISTRICT	1972/03/10	MALE
F00002	MS. HANAKO	KANAGAWA PREFECTURE, ODAWARA CITY	1976/10/18	FEMALE
F00003	MR. JIRO	SHIZUOKA PREFECTURE, NUMAZU CITY	1975/04/23	MALE

LINK

QUESTIONNAIRE RESULT TABLE

CID	QUESTION	ANSWER
F00001	USAGE TIME OF PC	3
F00001	CURRENT MODEL	AL SERIES, MANUFACTURED BY A
F00001	OPINION ABOUT THE PC IN USE	I THINK COST PERFORMANCE IS EXCELLENT
F00001	MODEL OF INTEREST	NX SERIES, MANUFACTURED BY X
F00001	MODEL OF INTEREST	XX SERIES, MANUFACTURED BY A
F00001	CRITERIA FOR SELECTION	LOOKS CLASSY
F00002	OPINION ABOUT THE PC IN USE	1
F00002	CURRENT MODEL	BL SERIES, MANUFACTURED BY B
F00002	OPINION ABOUT THE PC IN USE	REASONABLY PRICED FOR SOFTWARE PROVIDED AND A 6.4 G MEMORY.
F00002	MODEL OF INTEREST	XY SERIES, MANUFACTURED BY B
F00002	MODEL OF INTEREST	NN SERIES, MANUFACTURED BY X
F00002	MODEL OF INTEREST	AZ SERIES, MANUFACTURED BY C
F00002	CRITERIA FOR SELECTION	SLEEK, EASY TO CARRY.
F00003	USAGE TIME OF PC	5
F00003	CURRENT MODEL	XX SERIES, MANUFACTURED BY A
F00003	CURRENT MODEL	NX SERIES, MANUFACTURED BY X
F00003	OPINION ABOUT THE PC IN USE	GOOD VALUE FOR THE PRICE
F00003	MODEL OF INTEREST	YZ SERIES, MANUFACTURED BY A
F00003	MODEL OF INTEREST	FX SERIES, MANUFACTURED BY X
F00003	CRITERIA FOR SELECTION	LARGE LIQUID CRYSTAL MONITOR; WIDE VIEWING ANGLE

PERSONAL TABLE 112

LINK

MODEL OF INTEREST LIST TABLE

CID	MODEL OF INTEREST
F00001	NX SERIES, MANUFACTURED BY X
F00001	XX SERIES, MANUFACTURED BY A
F00002	XY SERIES, MANUFACTURED BY B
F00002	NN SERIES, MANUFACTURED BY X
F00002	AZ SERIES, MANUFACTURED BY C
F00003	YZ SERIES, MANUFACTURED BY A
F00003	FX SERIES, MANUFACTURED BY X

LINK

TREND ANALYSIS TABLE

CID	CRITERIA FOR SELECTION
F00001	LOOKS CLASSY
F00002	SLEEK, EASY TO CARRY.
F00003	LARGE LIQUID CRYSTAL MONITOR; WIDE VIEWING ANGLE

APPARATUS AND COMPUTER...
Kazuo Kayamoto
Greer, Burns & Crain, Ltd. (Patrick Burns)
Ref. No. 1924.69310
Sheet 2 of 12
(312) 360 0080
Jan. 28, 2004

FIG.3

COMMON DICTIONARY 121

TABLE MANAGEMENT INFORMATION

IDENTIFICATION NUMBER	TABLE NAME	SCHEMA NAME	COMMENTS
101	CUSTOMER	COMMON_SCHEMA	CUSTOMER INFORMATION
102	QUESTION	COMMON_SCHEMA	QUESTIONNAIRE RESULT
:	:	:	:

FIELD MANAGEMENT INFORMATION

IDENTIFICATION NUMBER	FIELD NAME	TABLE NAME	SCHEMA NAME	COMMENTS	DATA TYPE	ACCU-RACY	SCAL-ING	CLASSIFI-CATION
101	CID	CUSTOMER	COMMON_SCHEMA	CID	CHARACTER TYPE	6	0	DATA FIELD
102	NAME	CUSTOMER	COMMON_SCHEMA	NAME	CHARACTER TYPE	20	0	DATA FIELD
103	ADDRESS	CUSTOMER	COMMON_SCHEMA	ADDRESS	CHARACTER TYPE	80	0	DATA FIELD
104	BIRTHDAY	CUSTOMER	COMMON_SCHEMA	BIRTH DATE	CHARACTER TYPE	10	0	DATA FIELD
105	SEX	CUSTOMER	COMMON_SCHEMA	SEX	CHARACTER TYPE	2	0	DATA FIELD
107	CID	QUESTION	COMMON_SCHEMA	CID	CHARACTER TYPE	6	0	DATA FIELD
108	QUESTION	QUESTION	COMMON_SCHEMA	QUESTION	CHARACTER TYPE	80	0	DATA FIELD
109	ANSWER	QUESTION	COMMON_SCHEMA	RESPONSE	CHARACTER TYPE	256	0	DATA FIELD
:	:	:	:	:	:	:	:	:

LINK MANAGEMENT INFORMATION

IDENTIFICATION NUMBER	SOURCE SCHEMA NAME	SOURCE TABLE NAME	SOURCE KEY FIELD	TARGET SCHEMA NAME	TARGET TABLE NAME	JOINT DESTINATION KEY ITEM
101	COMMON_SCHEMA	QUESTION	CID	COMMON_SCHEMA	CUSTOMER	CID

PERSONAL DICTIONARY 122

TABLE MANAGEMENT INFORMATION

IDENTIFICATION NUMBER	TABLE NAME	SCHEMA NAME	COMMENTS
1	SALES_OBJECT	PERSONAL_SCHEMA	MODEL OF INTEREST LIST
2	SELECTION	PERSONAL_SCHEMA	TREND ANALYSIS
:	:	:	:

FIELD MANAGEMENT INFORMATION

IDENTIFICATION NUMBER	FIELD NAME	TABLE NAME	SCHEMA NAME	COMMENTS	DATA TYPE	ACCU-RACY	SCAL-ING	CLASSIFI-CATION
1	CID	SALES_OBJECT	PERSONAL_SCHEMA	CID	CHARACTER TYPE	6	0	DATA FIELD
2	RESPONSE	SALES_OBJECT	PERSONAL_SCHEMA	MODEL OF INTEREST LIST	CHARACTER TYPE	256	0	DATA FIELD
3	CID	SELECTION	PERSONAL_SCHEMA	CID	CHARACTER TYPE	80	0	DATA FIELD
4	RESPONSE	SELECTION	PERSONAL_SCHEMA	REASON	CHARACTER TYPE	256	0	DATA FIELD
5	KVR00001	SALES_OBJECT	PERSONAL_SCHEMA	MANUFACTURER	CHARACTER TYPE	256	0	CHARACTER OPERATION FIELD
:	:	:	:	:	:	:	:	:

LINK MANAGEMENT INFORMATION

IDENTIFICATION NUMBER	SOURCE SCHEMA NAME	SOURCE TABLE NAME	SOURCE KEY FIELD	TARGET SCHEMA NAME	TARGET TABLE NAME	JOINT DESTINATION KEY ITEM
1	COMMON_SCHEMA	CUSTOMER	CID	PERSONAL_SCHEMA	SALES_OBJECT	CID
2	PERSONAL_SCHEMA	SALES_OBJECT	CID	PERSONAL_SCHEMA	SELECTION	CID

FIG.4

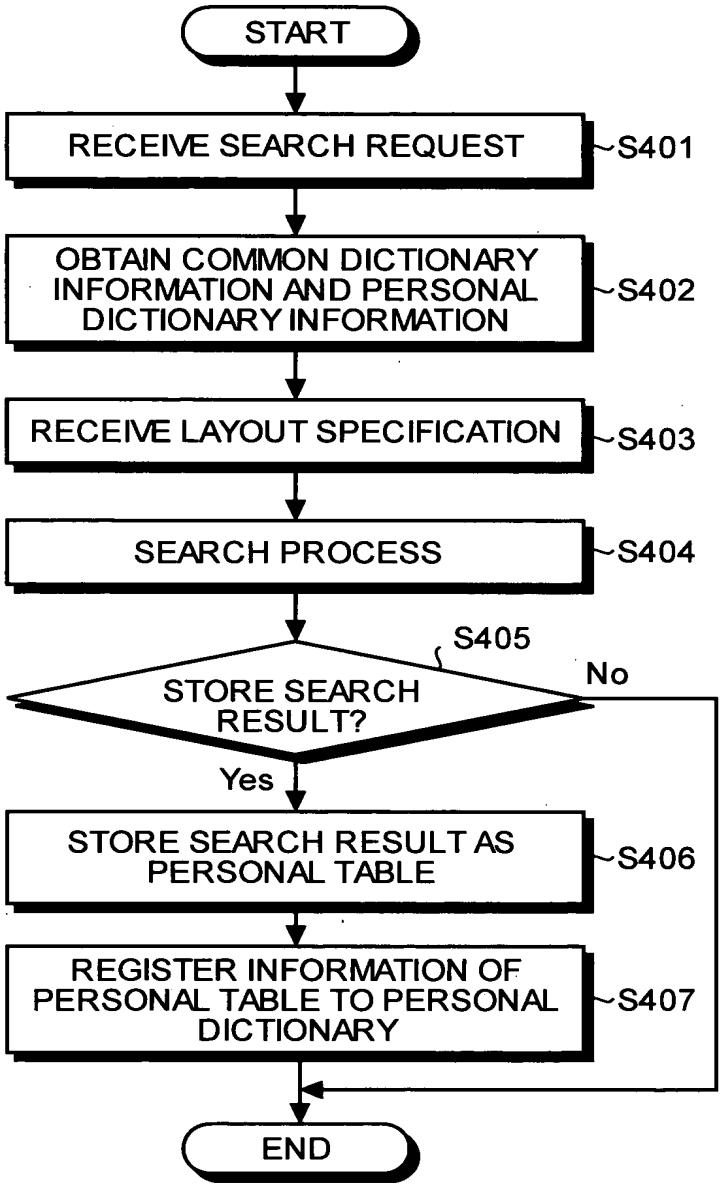

START
RECEIVE SEARCH REQUEST
S401
OBTAIN COMMON DICTIONARY INFORMATION AND PERSONAL DICTIONARY INFORMATION
S402
RECEIVE LAYOUT SPECIFICATION
S403
SEARCH PROCESS
S404
S405
STORE SEARCH RESULT?
No
Yes
STORE SEARCH RESULT AS PERSONAL TABLE
S406
REGISTER INFORMATION OF PERSONAL TABLE TO PERSONAL DICTIONARY
S407
END

FIG.5

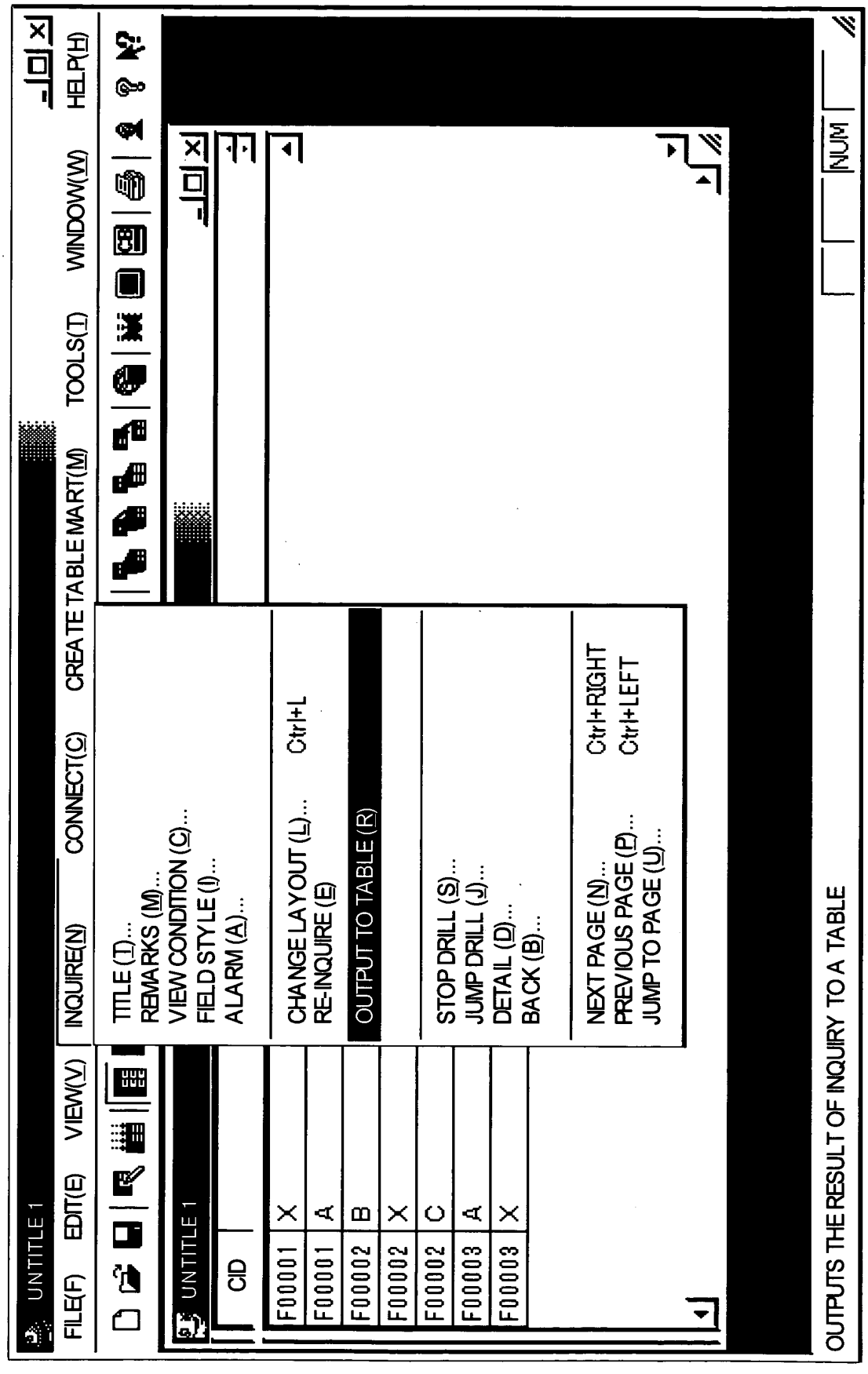

UNTITLE 1
FILE(F) EDIT(E) VIEW(V) INQUIRE(N) CONNECT(C) CREATE TABLE MART(M) TOOLS(T) WINDOW(W) HELP(H)
TITLE (T)...
REMARKS (M)...
VIEW CONDITION (C)...
FIELD STYLE (I)...
ALARM (A)...
CHANGE LAYOUT (L)... Ctrl+L
RE-INQUIRE (E)
OUTPUT TO TABLE (R)
STOP DRILL (S)...
JUMP DRILL (J)...
DETAIL (D)...
BACK (B)...
NEXT PAGE (N)... Ctrl+RIGHT
PREVIOUS PAGE (P)... Ctrl+LEFT
JUMP TO PAGE (U)...
UNTITLE 1
CID
F00001 X
F00001 A
F00002 B
F00002 X
F00002 C
F00003 A
F00003 X
OUTPUTS THE RESULT OF INQUIRY TO A TABLE
NUM

FIG.6

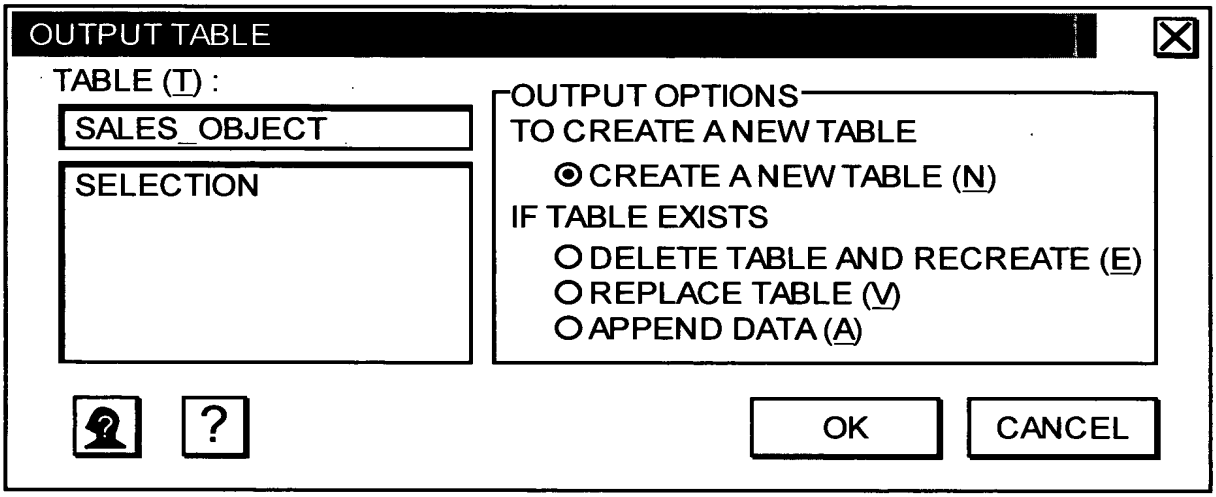

OUTPUT TABLE
TABLE (T) :
SALES_OBJECT
SELECTION
OUTPUT OPTIONS
TO CREATE A NEW TABLE
CREATE A NEW TABLE (N)
IF TABLE EXISTS
DELETE TABLE AND RECREATE (E)
REPLACE TABLE (V)
APPEND DATA (A)
OK
CANCEL

FIG.7

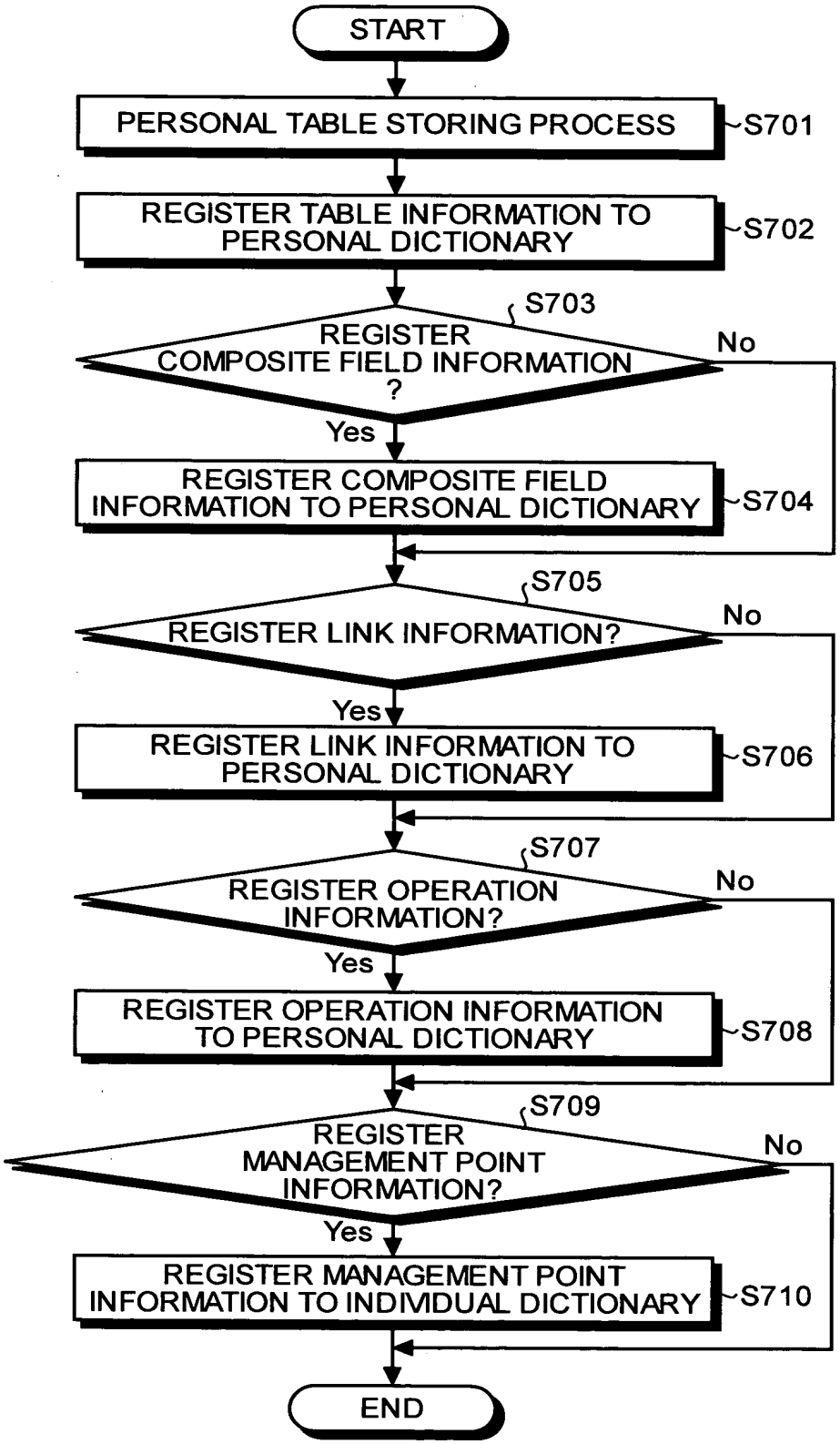

START
PERSONAL TABLE STORING PROCESS
S701
REGISTER TABLE INFORMATION TO PERSONAL DICTIONARY
S702
S703
REGISTER COMPOSITE FIELD INFORMATION ?
No
Yes
REGISTER COMPOSITE FIELD INFORMATION TO PERSONAL DICTIONARY
S704
S705
REGISTER LINK INFORMATION?
No
Yes
REGISTER LINK INFORMATION TO PERSONAL DICTIONARY
S706
S707
REGISTER OPERATION INFORMATION?
No
Yes
REGISTER OPERATION INFORMATION TO PERSONAL DICTIONARY
S708
S709
REGISTER MANAGEMENT POINT INFORMATION?
No
Yes
REGISTER MANAGEMENT POINT INFORMATION TO INDIVIDUAL DICTIONARY
S710
END

FIG.8

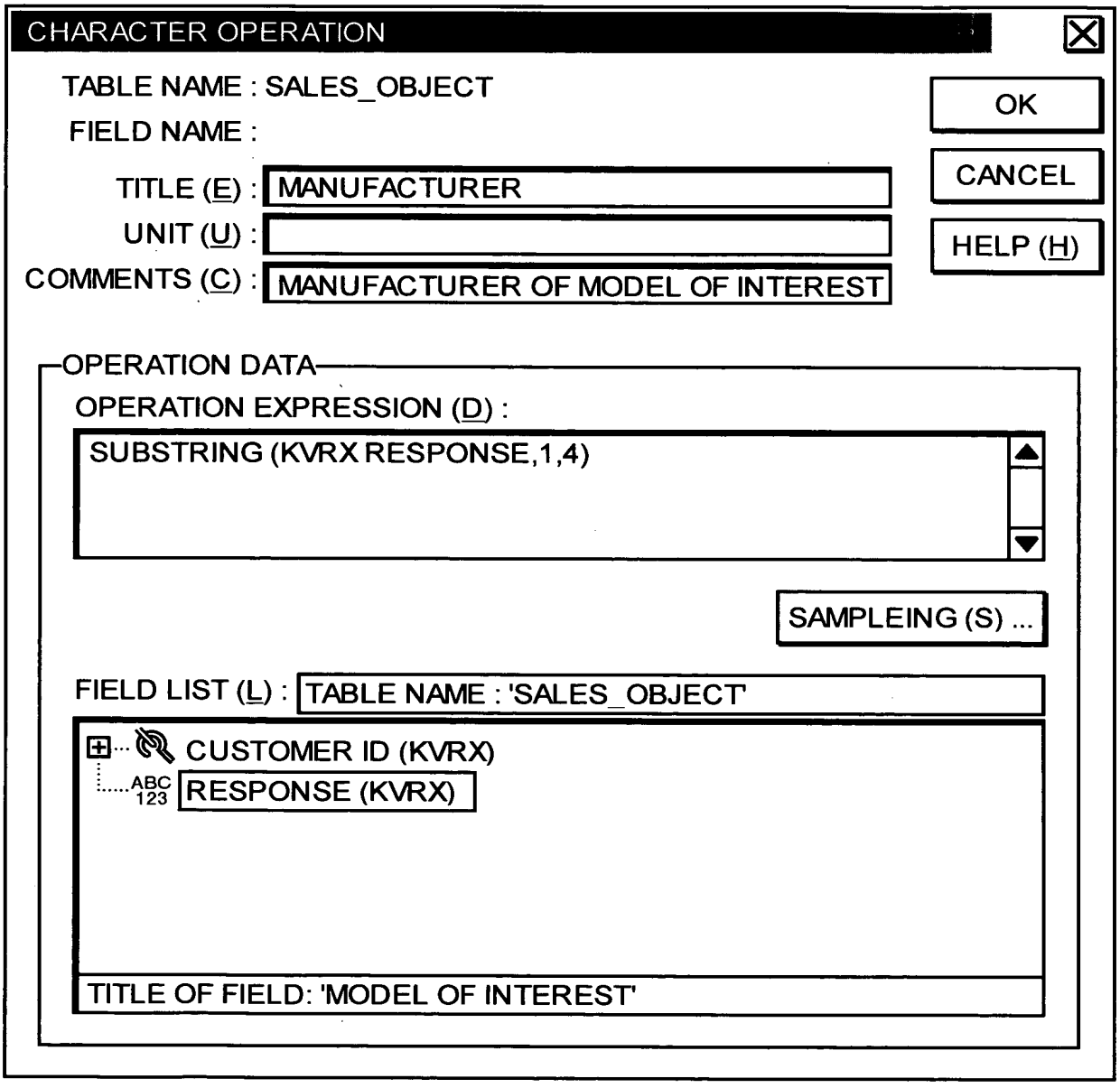

CHARACTER OPERATION
TABLE NAME : SALES_OBJECT
FIELD NAME :
TITLE (E) : MANUFACTURER
UNIT (U) :
COMMENTS (C) : MANUFACTURER OF MODEL OF INTEREST
OK
CANCEL
HELP (H)
OPERATION DATA
OPERATION EXPRESSION (D) :
SUBSTRING (KVRX RESPONSE,1,4)
SAMPLEING (S) ...
FIELD LIST (L) : TABLE NAME : 'SALES_OBJECT'
CUSTOMER ID (KVRX)
RESPONSE (KVRX)
TITLE OF FIELD: 'MODEL OF INTEREST'

FIG.9

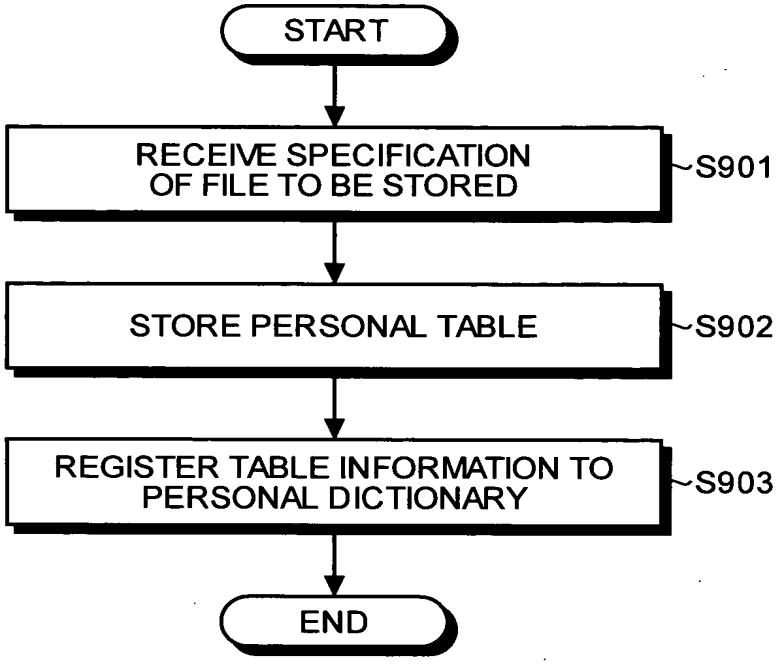

START
RECEIVE SPECIFICATION OF FILE TO BE STORED
S901
STORE PERSONAL TABLE
S902
REGISTER TABLE INFORMATION TO PERSONAL DICTIONARY
S903
END

FIG.10

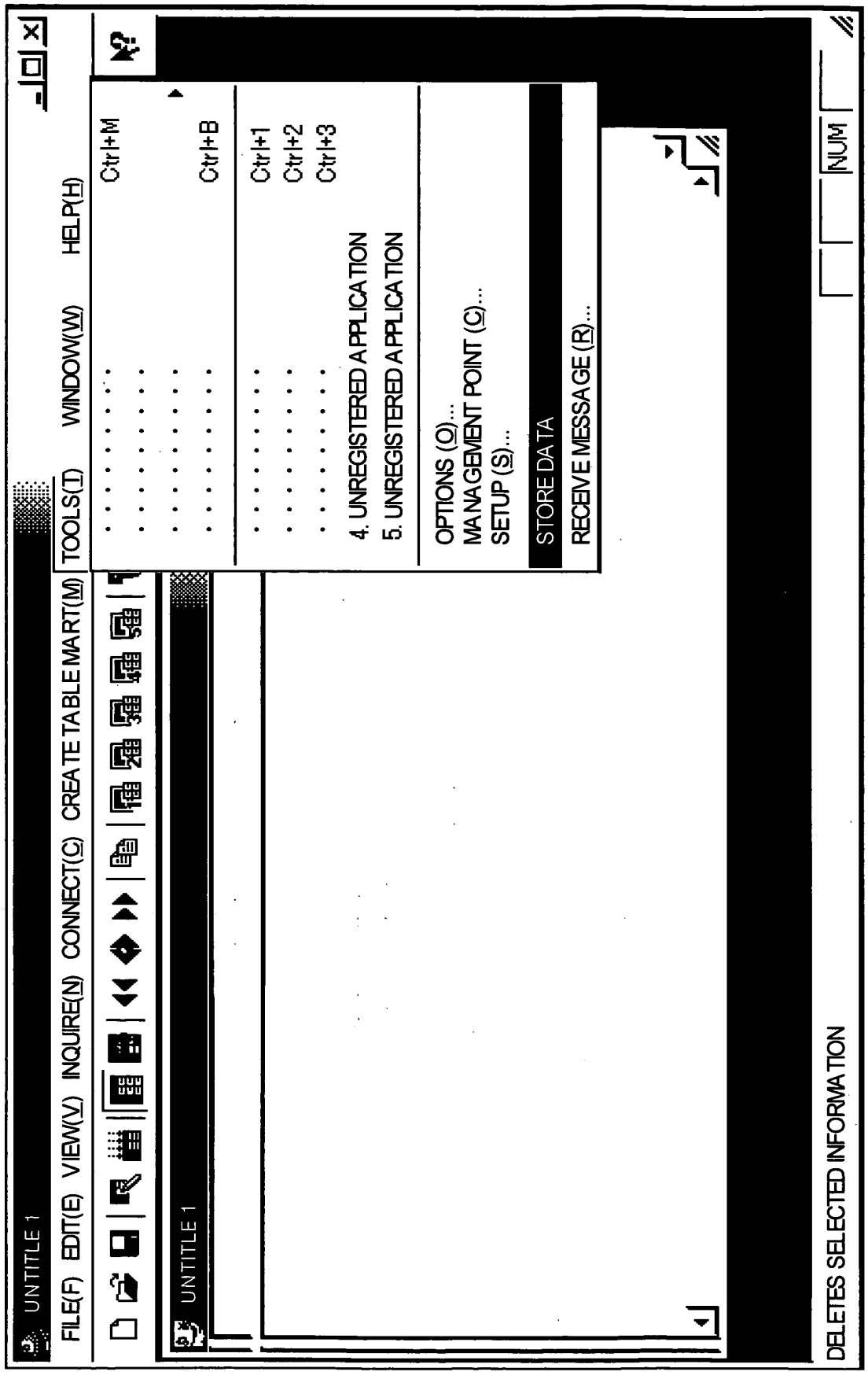

UNTITLE 1
FILE(F) EDIT(E) VIEW(V) INQUIRE(N) CONNECT(C) CREATE TABLE MART(M) TOOLS(T) WINDOW(W) HELP(H)
UNTITLE 1
Ctrl+M
Ctrl+B
Ctrl+1
Ctrl+2
Ctrl+3
4. UNREGISTERED APPLICATION
5. UNREGISTERED APPLICATION
OPTIONS (O)...
MANAGEMENT POINT (C)...
SETUP (S)...
STORE DATA
RECEIVE MESSAGE (R)...
DELETES SELECTED INFORMATION
NUM

FIG. 11

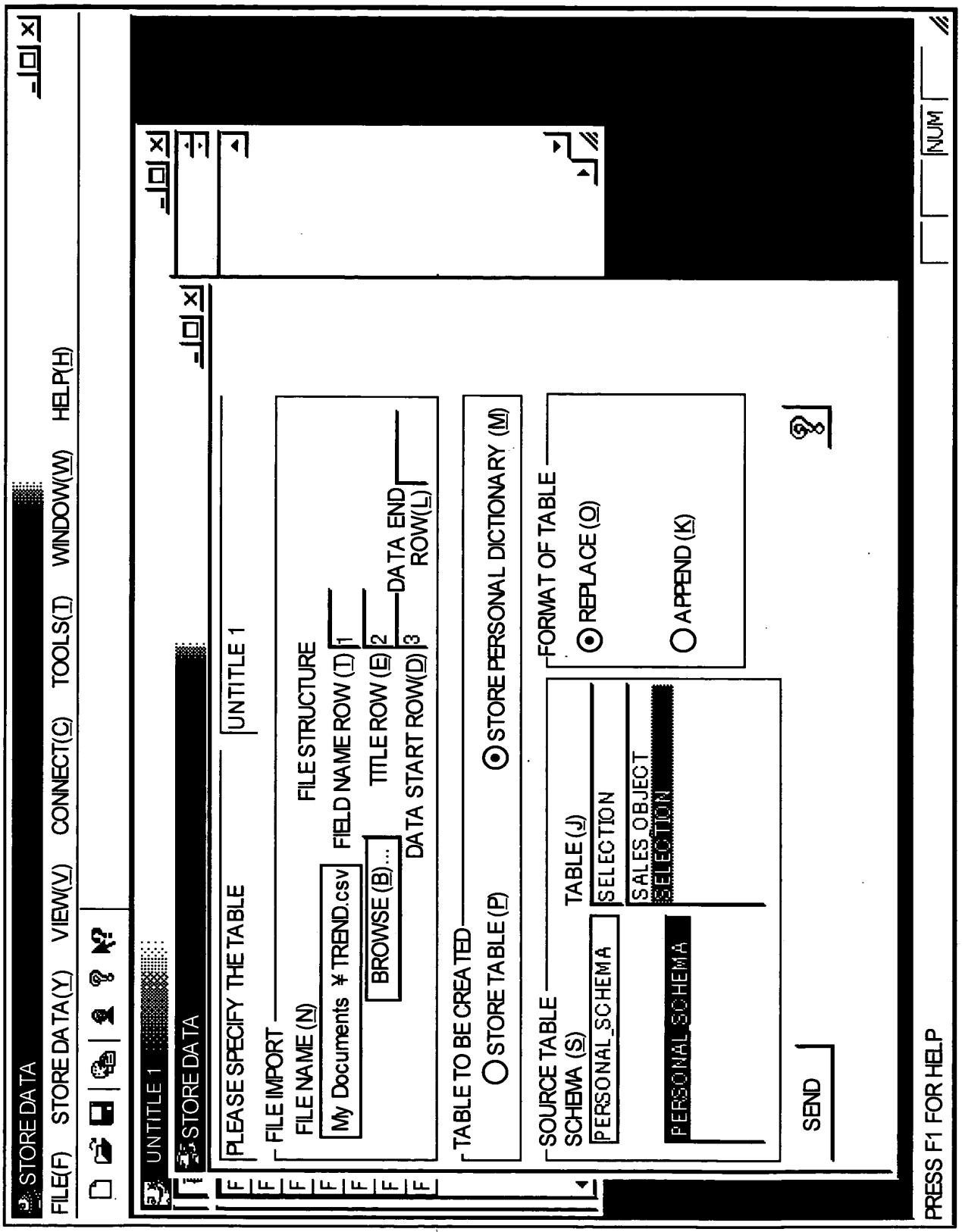
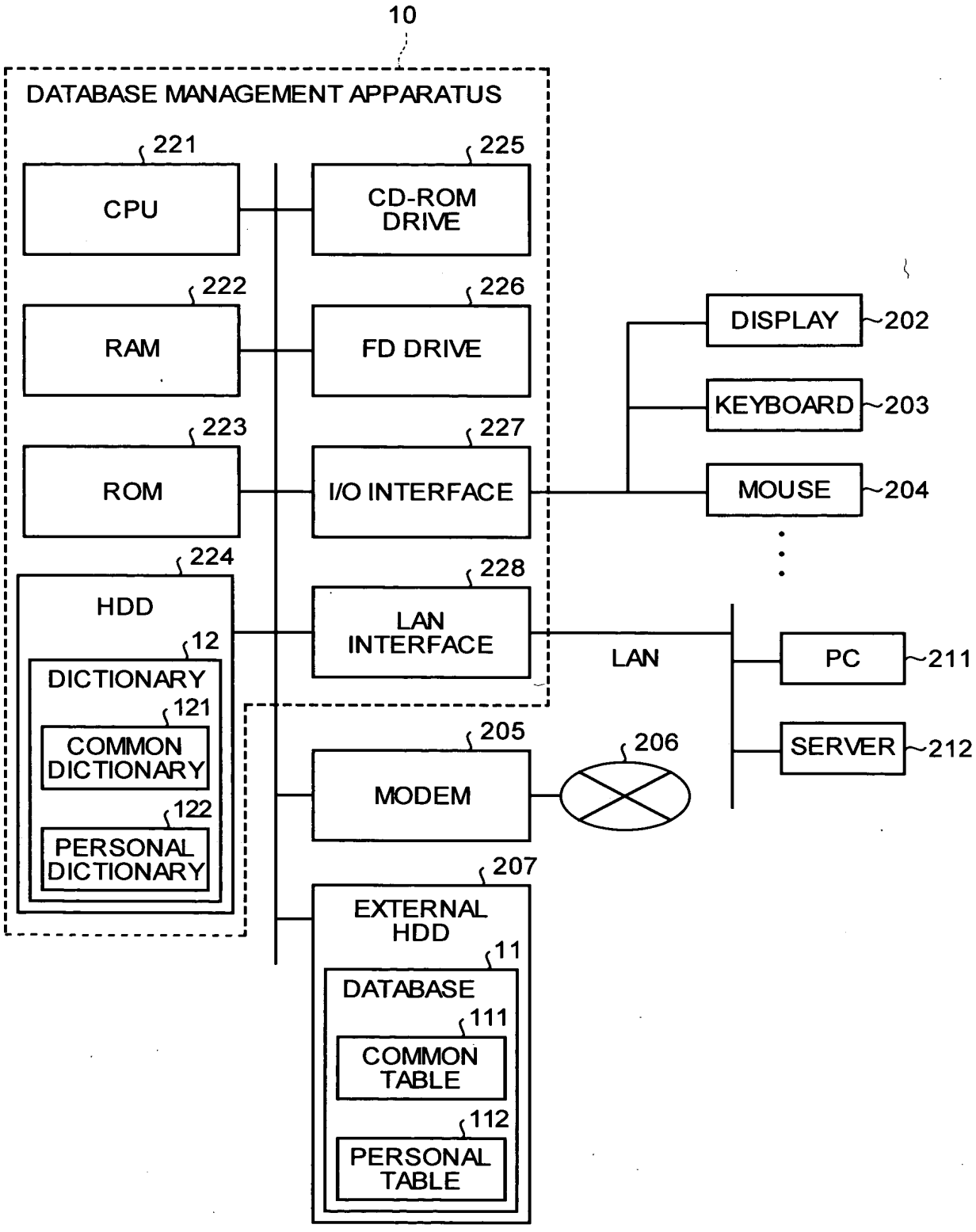

STORE DATA
FILE(F) STORE DATA(Y) VIEW(V) CONNECT(C) TOOLS(T) WINDOW(W) HELP(H)
UNTITLE 1
STORE DATA
PLEASE SPECIFY THE TABLE
UNTITLE 1
FILE IMPORT
FILE NAME (N)
My Documents ¥ TREND.csv
BROWSE (B)...
FILE STRUCTURE
FIELD NAME ROW (T) 1
TITLE ROW (E) 2
DATA START ROW(D) 3
DATA END ROW(L)
TABLE TO BE CREATED
STORE TABLE (P)
STORE PERSONAL DICTIONARY (M)
SOURCE TABLE
SCHEMA (S)
PERSONAL_SCHEMA
TABLE (J)
SELECTION
SALES_OBJECT
SELECTION
PERSONAL_SCHEMA
FORMAT OF TABLE
REPLACE (O)
APPEND (K)
SEND
PRESS F1 FOR HELP
NUM

FIG.12


10
DATABASE MANAGEMENT APPARATUS
221
CPU
225
CD-ROM DRIVE
222
RAM
226
FD DRIVE
223
ROM
227
I/O INTERFACE
224
HDD
228
LAN INTERFACE
12
DICTIONARY
121
COMMON DICTIONARY
122
PERSONAL DICTIONARY
205
MODEM
206
207
EXTERNAL HDD
11
DATABASE
111
COMMON TABLE
112
PERSONAL TABLE
DISPLAY
202
KEYBOARD
203
MOUSE
204
LAN
PC
211
SERVER
212